

Receipt date: 10/18/2012

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Complete if Known	
		Application Number	09/153,781
		Filing Date	Sept. 16, 1998
		First Named Inventor	Rosenberg
		Art Unit	2699
		Examiner Name	Liang, R.
		Attorney Docket Number	IMM053 (51851-281072)
Sheet	1	of	10

U.S. PATENT DOCUMENTS					
Examiner Initials *	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
	1.	2,906,179	09/1959	Bower	
	2.	3,490,059	01/1970	Paulsen et al.	
	3.	3,531,868	10/1970	Stevenson	
	4.	3,795,150	03/1974	Eckhardt	
	5.	3,875,488	04/1975	Crocker et al.	
	6.	3,890,958	06/1975	Fister et al.	
	7.	3,944,798	03/1976	Eaton	
	8.	4,114,882	09/1978	Mau	
	9.	4,131,033	12/1978	Wright et al.	
	10.	4,148,014	04/1979	Burson	
	11.	4,216,467	08/1980	Colston	
	12.	4,448,083	05/1984	Hayashi	
	13.	4,477,043	10/1984	Repperger	
	14.	4,477,973	10/1984	Davies	
	15.	4,550,221	10/1985	Mabuth	
	16.	4,550,617	11/1985	Fraignier et al.	
	17.	4,560,983	12/1985	Williams	
	18.	4,571,834	02/1986	Fraser et al.	
	19.	4,593,470	06/1986	Davies	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				
	20.	EP 0265011	04/1988	Oce Nederland BV		
	21.	EP 0607580	07/1994	IBM		
	22.	EP 0626634	05/1994	Matsushita Elect. Ind. Co. Ltd		
	23.	WO 95/20787	08/1995	Exos Inc.		
	24.	WO 95/10080	01/1995	MIT		
	25.	JP 4-34610	02/1992	Fuki Heavy Ind. Ltd.		
	26.	JP H2-185278	07/1990	Taito Corp		x
	27.	JP H4-8381	01/1992	Epotsukushiya KK KII Planning KK		x
	28.	JP H7-24147	01/1995	Sega Enter. LTD.		x
	29.	JP H5-192449	08/1993	Taito Corp.		x

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		Number - Kind Code ² (if known)			
	30.	4,601,206	07/1986	Watson	
	31.	4,604,016	08/1986	Joyce	
	32.	4,638,798	01/1987	Sheldon et al.	
	33.	4,653,011	03/1987	Iwano	
	34.	4,676,002	06/1987	Slocum	
	35.	4,679,331	12/1986	Koontz	
	36.	4,688,983	08/1987	Lindbom	
	37.	4,692,756	09/1987	Clark	
	38.	4,703,443	10/1987	Moriyasu	
	39.	4,704,909	11/1987	Grahn et al.	
	40.	4,734,685	03/1988	Watanabe	
	41.	4,750,487	06/1988	Zanetti	
	42.	4,769,763	09/1988	Trieb et al.	
	43.	4,782,327	11/1988	Kley et al.	
	44.	4,787,051	11/1988	Olson	
	45.	4,791,934	12/1988	Brunnett	
	46.	4,798,919	01/1989	Miessler et al.	
	47.	4,803,413	02/1989	Kendig et al.	
	48.	4,811,608	03/1989	Hilton	
	49.	4,819,195	04/1998	Bell et al.	
	50.	4,849,692	07/1989	Blood	

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		Number - Kind Code ² (if known)			
	51.	4,879,556	11/1989	Duimel	
	52.	4,888,877	12/1989	Enderle et al.	
	53.	4,891,889	01/1990	Tomelleri	
	54.	4,896,554	01/1990	Culver	
	55.	4,907,973	03/1990	Hon	
	56.	4,925,312	05/1990	Onaga et al.	
	57.	4,942,545	07/1990	Sapia	
	58.	4,945,305	07/1990	Blood	
	59.	4,945,501	07/1990	Bell et al.	
	60.	4,961,038	10/1990	MacMinn	
	61.	4,961,267	10/1990	Herzog	
	62.	4,962,448	10/1990	DeMalo et al.	
	63.	4,962,591	10/1990	Zeller et al.	
	64.	4,982,504	01/1991	Soderberg et al.	
	65.	4,982,618	01/1991	Culver	
	66.	4,983,786	01/1991	Stevens et al.	
	67.	4,983,901	01/1991	Lehmer	
	68.	5,040,306	08/1991	McMurtry et al.	
	69.	5,065,145	11/1991	Purcell	
	70.	5,076,517	12/1991	Ferranti et al.	
	71.	5,088,046	02/1992	McMurty et al.	
	72.	5,088,055	02/1992	Oyama	
	73.	5,095,303	03/1992	Clark et al.	
	74.	5,107,262	04/1992	Cadoz et al.	
	75.	5,116,180	05/1992	Fung et al.	
	76.	5,126,948	06/1992	Mitchell et al.	
	77.	5,131,844	07/1992	Marinaccio et al.	
	78.	5,142,506	08/1992	Edwards	
	79.	5,148,377	09/1992	McDonald	
	80.	5,178,012	01/1993	Culp	
	81.	5,182,557	01/1993	Lang	
	82.	5,184,306	02/1993	Edrman et al.	

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		Number - Kind Code ² (if known)			
	83.	5,186,629	02/1993	Rohen	
	84.	5,187,874	02/1993	Takahashi et al.	
	85.	5,189,355	02/1993	Larkins et al.	
	86.	5,189,806	03/1993	McMurtry et al.	
	87.	5,195,179	03/1993	Tokunaga	
	88.	5,197,003	03/1993	Moncrief et al.	
	89.	5,203,563	04/1993	Loper, III	
	90.	5,204,824	04/1993	Fujimaki	
	91.	5,209,131	05/1993	Baxter	
	92.	5,228,356	07/1993	Chuang	
	93.	5,235,868	08/1993	Culver	
	94.	5,251,127	10/1993	Raab	
	95.	5,251,156	10/1993	Heier et al.	
	96.	5,259,120	11/1993	Chapman et al.	
	97.	5,259,894	11/1993	Sampson	
	98.	5,262,777	11/1993	Lowe et al.	
	99.	5,826,203	02/1994	Fuller et al.	
	100.	5,296,846	03/1994	Ledley	
	101.	5,296,871	03/1994	Paley	
	102.	5,298,890	03/1994	Kanamaru et al.	
	103.	5,313,230	05/1994	Venolia et al.	
	104.	5,351,692	10/1994	Dow et al.	
	105.	5,355,148	10/1994	Anderson	
	106.	5,374,942	12/1994	Gilligan et al.	
	107.	5,379,663	01/1995	Hara	
	108.	5,381,080	01/1995	Schnell et al.	
	109.	5,384,460	01/1995	Tseng	
	110.	5,386,507	01/1995	Telg et al.	

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	111.	5 397 323	03/1995	Taylor et al.	
	112.	5,402,582	04/1995	Raab	
	113.	5 412,880	05/1995	Raab	
	114.	5,417,696	05/1995	Kashuba et al	
	115.	5,436,640	07/1995	Reeves	
	116.	5,445,166	08/1995	Taylor	
	117.	5,467,763	11/1995	McMahon et al.	
	118.	5 471 571	11/1995	Smith et al	
	119.	5,482,051	01/1996	Reddy et al.	
	120.	5,526,480	06/1996	Gibson	
	121.	5,530,455	06/1996	Gillick et al.	
	122.	5,565,840	10/1996	Thorner et al.	
	123.	5,565,887	10/1996	McCambridge et al.	
	124.	5,565,888	10/1996	Selker	
	125.	5,570,111	10/1996	Barrett et al.	
	126.	5,583,407	12/1996	Yamaguchi	
	127.	5,583,478	12/1996	Renzi	
	128.	5,591,924	01/1997	Hilton	
	129.	5,596,347	01/1997	Robertson et al.	
	130.	5,619,180	04/1997	Massimino et al	
	131.	5,629,594	05/1997	Jacobus et al.	
	132.	5,629,597	05/1997	Jacobs et al.	
	133.	5,631,861	05/1997	Kramer	
	134.	5,656,901	08/1997	Kurita	
	135.	5,691,747	11/1997	Amano	
	136.	5,701,140	12/1997	Rosenberg et al.	

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	137.	5,701,140	12/1997	Rosenberg et al.	
	138.	5,724,068	03/1998	Sanchez et al.	
	139.	5,731,804	03/1998	Rosenberg	
	140.	5,739,811	04/1998	Rosenberg et al.	
	141.	5,745,715	04/1998	Pickover et al.	
	142.	5,757,358	05/1998	Osga	
	143.	5,760,764	06/1998	Martinelli	
	144.	5,786,818	07/1998	Brewer et al.	
	145.	5,805,165	09/1998	Thome III et al.	
	146.	5,808,601	09/1998	Leah et al.	
	147.	5,818,423	10/1998	Pugliese et al.	
	148.	5,825,308	10/1998	Rosenberg	
	149.	5,877,748	03/1999	Redlich	
	150.	5,880,714	03/1999	Rosenberg et al.	
	151.	5,889,672	03/1999	Schuler et al.	
	152.	6,020, 876	02/2000	Rosenberg et al.	
	153.	6,028,593	02/2000	Rosenberg et al.	
	154.	6,057,828	05/2000	Rosenberg et al.	
	155.	6,061,004	05/2000	Rosenberg	
	156.	6,078,308	06/2000	Rosenberg et al.	
	157.	6,088,019	07/2000	Rosenberg	
	158.	6,162,123	12/2000	Woolston	

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Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>		Complete if Known <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Application Number</td> <td>09/153,781</td> </tr> <tr> <td>Filing Date</td> <td>Sept. 16, 1998</td> </tr> <tr> <td>First Named Inventor</td> <td>Rosenberg</td> </tr> <tr> <td>Art Unit</td> <td>2699</td> </tr> <tr> <td>Examiner Name</td> <td>Liang, R.</td> </tr> <tr> <td>Attorney Docket Number</td> <td>IMM053 (51851-281072)</td> </tr> </table>		Application Number	09/153,781	Filing Date	Sept. 16, 1998	First Named Inventor	Rosenberg	Art Unit	2699	Examiner Name	Liang, R.	Attorney Docket Number	IMM053 (51851-281072)
Application Number	09/153,781														
Filing Date	Sept. 16, 1998														
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Art Unit	2699														
Examiner Name	Liang, R.														
Attorney Docket Number	IMM053 (51851-281072)														
Sheet	7	of	10												

U.S. PATENT DOCUMENTS					
Examiner Initials *	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
	159.	6,349,301	02/2002	Mitchell et al.	
	160.	6,183,364	02/2001	Trovato	
	161.	6,160,489	12/2000	Perry et al.	
	162.	6,046,726	04/2000	Keyson	
	163.	5,917,725	06/1999	Thacher et al.	
	164.	5,755,620	05/1998	Yamamoto et al.	
	165.	5,695,400	12/1997	Fennell et al.	
	166.	5,575,761	11/1996	Hajianpour	
	167.	5,466,213	11/1995	Hogan	
	168.	5,437,607	08/1995	Taylor	
	169.	5,436,622	07/1995	Gutman et al.	
	170.	5,283,970	02/1994	Aigner	
	171.	5,175,459	12/1992	Daniel et al.	
	172.	5,165,897	11/1992	Johnson	
	173.	5,022,384	06/1991	Freels	
	174.	4,885,565	12/1989	Embach	
	175.	4,794,392	12/1988	Selinko	
	176.	4,484,191	11/1984	Vavra	
	177.	4,464,117	08/1984	Foerst	
	178.	4,333,070	06/1982	Barnes	
	179.	4,262,549	04/1981	Schwellenbach	
	180.	4,127,752	11/1978	Lowthorp	
	181.	3,911,416	10/1995	Feder	
	182.	3,623,064	11/1970	Kagan	
	183.	2,972,140	02/1961	Hrisch	
	184.	4,686,397	08/1987	Becker	
	185.	4,795,929	01/1989	Elgass et al.	
	186.	5,589,828	12/1996	Armstrong	
	187.	5,959,382	09/1999	Dauwalter	
	188.	6,353,850	03/2002	Wies et al.	
	189.	6,859,819	02/2005	Rosenberg et al.	
	190.	6,985,133	01/2006	Rodomista	

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Substitute for form 1449B/PTO		Complete if Known	
		Application Number	09/153,781
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)		Filing Date	Sept. 16, 1998
		First Named Inventor	Rosenberg
		Art Unit	2699
		Examiner Name	Liang, R.
		Attorney Docket Number	IMM053 (51851-281072)
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NON PATENT LITERATURE DOCUMENTS			
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	191.	"High Performance Model of the Immersion Probe," Immersion-Probe-MD™, Immersion Human Interface. Corporation., undated.	
	192.	"The Personal Digitizer™," Immersion Human Interface Corporation 1994.	
	193.	3D Human Interface Tool, Immersion Probe™, Immersion Human Interface Corporation 1994.	
	194.	SLOCUM, Precision Machine Design, Prentice Hall, pp. 661, 664., undated.	
	195.	ANSLEY, D., "Thimble gets in touch with reality," New Scientist, 1994, p. 19.	
	196.	GOSSWEILER et al., "An Introduced Tutorial for Developing Multi-User Virtual Environments," Presence: Teleoperators and Virtual Environments, MIT Press, 3(4), Fall 94 pp. 255-264., undated.	
	197.	KOTOKU, T. et al., "Environment Modeling for the Interactive Display (EMID) Used In Telerobotic Systems," IEEE November 3-5, 1991, pp. 99-1004.	
	198.	KRISHNA R., "Virtual Presence Takes Surgeons through the Virtual Keyhole to Hone Their Skills", Business & Industry, Jul. 4, 1995.	
	199.	KRUEGER, M., Artificial Reality 1988, pp. 54-75.	
	200.	MEYER, K. et al., 'A Survey of Position Trackers, The Massachusetts Institute of Technology 1992, Presence, vol. 1, No. 2.	
	201.	OUH-YOUNG, M. et al. "Creating an Illusion of Feel: Control Issues in Force Display," University of North Carolina, 1989, pp. 1-14.	

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	202.	AUKSTAKALNIS et al., "Silicon Mirage: The Art and Science of Virtual Reality," ISBN 0-938151-82-7, pp. 129-180, 1992.	
	203.	BLISS, "Optical-to-Tactile Image Conversion for the Blind." IEEE Transactions on Man Machine Systems, Vol. MMS- 11, No. 1, March 1970.	
	204.	CALDER, "Design of A Force-Feedback Touch-Introducing Actuator For Teleoperator Robot Control," Bachelor of Science Thesis, MIT, May 1983, archived June 23, 1983.	
	205.	EBERHARDT et al., "Inducing Dynamic Haptic Perception by The Hand: System Description and Some Results," DSC-Vol. 55-1, Dynamic Systems and Control: Volume 1, ASME 1994.	
	206.	JOHNSON, "Shape-Memory Alloy Tactile Feedback Actuator." Armstrong Aerospace Medical Research Laboratory, AAMRL-TP.-90-039, August, 1990.	
	207.	KONTARINIS et al., "Tactile Display of Vibratory Information in Teleoperation and Virtual Environments," PRESENCE, 4(4):387-402, Harvard Univ., 1995.	
	208.	PATRICK, "Design, Construction, and Testing of a Fingertip Tactile Display for Interaction with Virtual and Remote Environments," Master of Science Thesis, MIT, Aug. 1990, archived Nov. 8, 1990.	
	209.	REPPERGER, D.W., "Active Force Reflection Devices In Teleoperation," IEEE Control Systems, undated.	
	210.	ROSENBERG, L., "Virtual Fixtures": Perceptual Overlays Enhance Operator Performance in Telepresence Tasks", Stanford University, Jun. 1994, pp. 1-214.	
	211.	ROSENBERG, L., 'Crew Systems Directorate Biodynamics and Bio-communications Division Wright- Patterson, Air Force Material Command, Mar. 1993, pp. 1-45.	
	212.	ROSENBERG, L., 'Virtual Haptic Overlays Enhance Performance In Telepresence Tasks,' SPIE, 1994.	
	213.	SMITH, G., 'Call It Palpable Progress,' Business Week, Oct. 9, 1995, p.93, 96.	
	214.	SNOW, E. et al., "Compact Force-Reflecting Hand Controller," JPL, Apr. 1991, vol. 15, No. 3, Item No. 153, p. 1-15a	
	215.	TAVKHELIDZE, D.S. "Kinematic Analysis of Ave-link Spherical Mechanisms, Mechanism and Machine Theory 1974, vol. 9, pp. 181-190.	
	216.	WIKER, "Teletouch Display Development: Phase 1 Report," Technical Report 1230, Naval Ocean Systems Center, San Diego, July 1988.	

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	217.	"Component Maintenance Manual With illustrated Parts List, Coaxial Control Shaker Part No. C-25502," Safe Flight Instrument Corporation, Revised 28 January 2002 (3 pages).	
	218.	"Technical Manual Overhaul Instructions With Parts Breakdown, Coaxial Control Shaker Part No. C-25502," Safe Flight Instrument Corporation, Revised 15 July 1980 (23 pages).	
	219.	'Cyberman Technical Specification," Log/tech Cyberman SWIFT Supplement to Log/tech Mouse Technical Reference and Programming Guide, 4/5/1994.	
	220.	GOBEL et al., "Tactile Feedback Applied to Computer Mice." International Journal of Human-Computer Interaction, Vol. 7, No. 1, pp. 1-24, 1995.	
	221.	KACZMAREK et al., "Tactile Displays," Virtual Environment Technologies, Chap. 9, pp. 349-414.	undated.
	222.	LAKE, 'Cyberman from Logitech," at http://www.iblblo.org/GameBytes/Issue21/grevlews/cybennan.html , 1994.	
	223.	OUHYOUNG et al., "The Development of A Low-Cost Force Feedback Joystick and Its Use in the Virtual Reality Environment," Proceedings of the Third Pacific Conference on Computer Graphics and Applications, Pacific Graphics '95, Seoul, Korea, 21-24 August 1995.	
	224.	PIMENTEL et al., "Virtual Reality: through the new looking glass," 2nd Edition; McGraw-Hill, ISBN 0-07-050167-X, pp. 41-202, 1994:	
	225.	SCANNELL, "Taking a Joystick Ride," Computer Currents, Boston Edition, Vol. 9, No. 11, November 1994	
	226.	United States Patent and Trademark Office, Office Action, Application No. 10/615,927, mailed July 21, 2008.	
	227.	United States Patent and Trademark Office, Office Action, Application No. 12/638,263, mailed November 8, 2010.	
	228.	United States Patent and Trademark Office, Office Action, Application No. 12/638,263, mailed March 7, 2011.	

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